

MODEL G-40

Four-Tube, Single-Band, A-C Superheterodyne Receiver

Electrical Specifications

Frequency Range	530—1,720 kc	R-F Alignment Frequency	600 kc (osc), 1500 kc (osc., ant.)
Intermediate Frequency			460 kc
RADIOTRON COMPLEMENT			
(1) Type 6A8-G	First Detector-Oscillator	(3) Type 6K6-G	Audio Power Amplifier
(2) Type 6B8-G	I.F. Amplifier, Second Detector, A.F. Amplifier and A.V.C.	(4) Type 5Y4-G	Rectifier
POWER SUPPLY RATINGS			
Rating A			105-125 volts, 50-60 cycles
Rating B			105-125 volts, 25-60 cycles
POWER OUTPUT RATING			
Undistorted	1.0 watts	LOUDSPEAKER	
Maximum	2.5 watts	Type	Electrodynamic
		Voice Coil Impedance	ohms at 400 cycles

Mechanical Specifications

Height	9 inches
Width	11 $\frac{3}{4}$ inches
Depth	7 $\frac{1}{2}$ inches
Weight (Net)	14 pounds
Weight (Shipping)	15 pounds
Chassis Base Dimensions	10 inches x 5 $\frac{3}{4}$ inches x 2 $\frac{1}{4}$ inches
Over-all Chassis Height	7 $\frac{1}{2}$ inches
Operating Controls	(1) Power Switch (2) Volume (3) Tuning

General Description

This receiver employs a superheterodyne circuit, the arrangement of which is shown on figure 2. Its design includes magnetite-core adjusted i-f transformers; automatic volume

control; resistance-coupled audio system; and a 5-inch, electrodynamic loudspeaker.

Service Data

The various diagrams of this booklet contain such information as will be needed to isolate causes for defective operation if such develops. The ratings of the resistors, capacitors, coils, etc., are indicated adja-

cent to the symbols signifying these parts on the diagrams. Identification titles such as R1, L1, C1, etc., provide reference between the illustrations and Replacement Parts List.

LOUDSPEAKER—Centering of the loudspeaker voice coil is made in the usual manner with three narrow paper feelers.

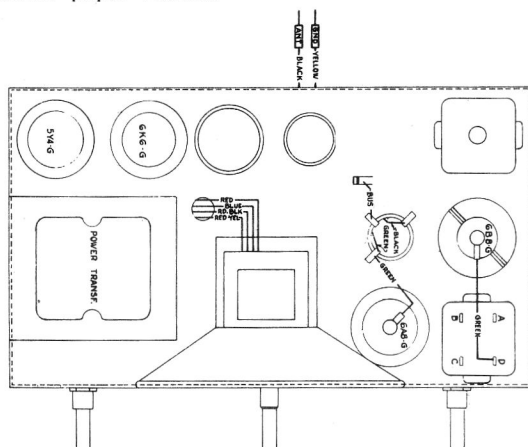
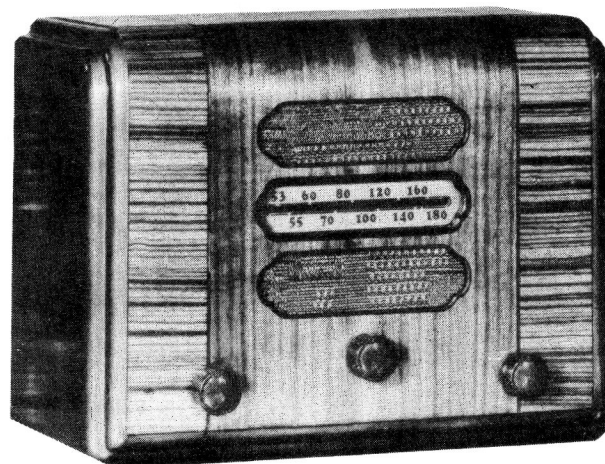


Figure 1—Radiotron and Coil Locations



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Alignment Procedure

The station indicator ribbon is calibrated by rotating the station selector indicator knob in a clockwise direction until the indicator band on the ribbon is at the extreme left hand position; when the gang tuning condenser plates are in the full mesh-position. This is a self-adjusting adjustment.

Perform alignment in proper order, tabulated below, starting with No. 1 and following all operations across, then No. 2, etc. Adjustment locations are shown on figures 1 and 4.

Cathode-ray alignment is preferable; the connections to the chassis are shown on figure 3. If an output indicator is used, connect it across the loudspeaker voice-coil and advance the receiver volume control to full-volume position.

Connect the "low" output terminal of the test oscillator to the receiver chassis for all alignment operations. Regulate the output of the test oscillator so that minimum signal is applied to the receiver to obtain an observable output indication. This will avoid a-v-c action.

The term "Dummy antenna" means the device which must be connected between the "high" test-oscillator output and the point of connection to the receiver in order to obtain ideal alignment. "No signal, 550-750 kc" means that the receiver should be tuned to a point between 550 and 750 kc where no signal or interference is received from a station or local (heterodyne) oscillator.

Order of Alignment	Test Oscillator			Receiver Dial Setting	Circuit to Adjust	Adjustment Symbols	Adjust to Obtain
	Connection to Receiver	Dummy Antenna	Frequency Setting				
1	6B8-G Grid Cap	.001 Mfd.	460 kc	No Signal 550-750 kc	2nd I-F Trans.	L8	Max. (peak)
2	6A8-G Grid Cap	.001 Mfd.	460 kc	No Signal 550-750 kc	1st I-F Trans.	L5 and L6	Max. (peak)
3	Ant. Lead	200 Mmfd.	1,500 kc	1,500 kc	"A" Osc.	C4	Max. (peak)
4	Ant. Lead	200 Mmfd.	1,500 kc	1,500 kc	"A" Ant.	C3	Max. (peak)

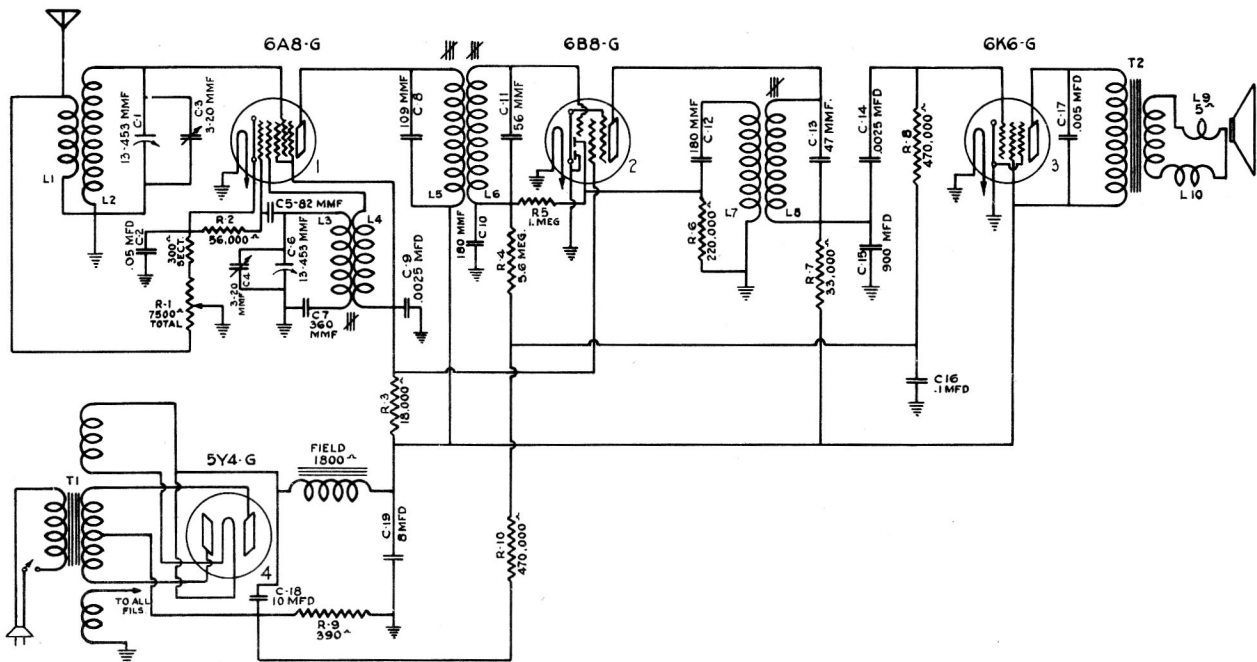


Figure 2—Schematic Circuit Diagram

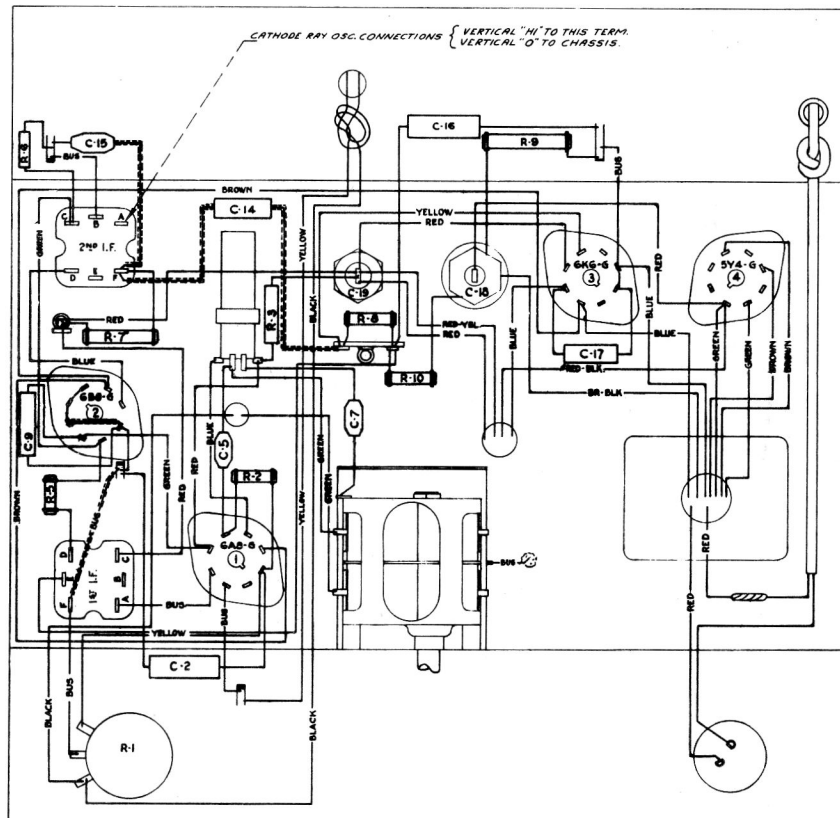


Figure 3—Chassis Wiring Diagram

RADIOTRON VOLTAGES:—A.C. LINE VOLTAGE AT 120 VOLTS

Radiotron		Plate	Screen Grid	Cathode	Grid	Filament
(1) 6A8G	Converter Oscillator	218V 82V	82V	3.0V		6.9V
(2) 6B8G	Detector i.f. and audio	-.5V 85V	82V		-2.77V	6.9V
(3) 6K6G	Output	205V	220V		-15.5	6.9V
(4) 5Y4G	Rectifier			300V		5.2V

REPLACEMENT PARTS MODEL G40

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
RECEIVER ASSEMBLIES			
11350	Cap-Grid contact cap-Pkg.of 5.....	S-2065	Transformer-First I.F. transformer (L5,L6,C8,C10,C11,R4).....
S-1734	Capacitor-47 Mmfd. (C-13).....	S-1770	Transformer-Second I.F. transformer (L7,L8,C12,C13).....
11307	Capacitor-56 Mmfd. (C-11).....	S-2066	Transformer-Power transformer 105-125 volt-60-cycle (T1).....
12813	Capacitor-82 Mmfd. (C5).....	S-2067	Transformer-Power transformer,105-125 volt-25 cycle (T1).....
14262	Capacitor-109 Mmfd. (C8).....	S-2087	Volume control (R1).....
12406	Capacitor-180 Mmfd. (C10,C12).....	12006	Core-Adjustable core and stud for 1st, 2nd, I.F.transformers and oscillator coil.....
13894	Capacitor-390 Mmfd. (C7).....	REPRODUCER ASSEMBLIES	
S-2053	Capacitor-900 Mmfd. (C15).....	S-2084	Coil Assembly-Comprising field magnet and cone support, less output transformer.....
5107	Capacitor-.0025 Mfd. (C9,C14).....	S-1677	Cone-Reproducer cone.....
4793	Capacitor-.005 Mfd. (C17).....	S-2085	Reproducer-Complete.....
4836	Capacitor-.05 Mfd. (C2).....	S-1676	Transformer-Output transformer (T2)...
4839	Capacitor-.1 Mfd. (C16).....	CONDENSER DRIVE ASSEMBLIES	
S-1765	Capacitor-.8 Mfd. (C19).....	S-2079	Bracket-Dial plate bracket.....
11240	Capacitor-10 Mfd. (C18).....	S-2083	Cord-Main tuning drive cord.....
S-2064	Clip-Radiotron shield grounding clip-Pkg.10.....	S-2074	Cord-Tuning ribbon drive cord.....
S-2054	Coil-Antenna coil (L1,L2).....	S-2080	Dial bracket mounting assembly.....
S-2030	Coil-Oscillator coil (L3,L4).....	S-2075	Dial-Station selector dial scale.....
S-2089	Condenser - Two gang variable tuning condenser (C1,C3,C4,C6).....	11982	Fasteners-Dial scale fasteners,Pkg.25.
S-1830	Knob-Station selector,volume control or power switch knob-Pkg.of 2.....	S-2077	Pins-Ribbon idler pulley cotter pins Pkg. of 25.....
S-2059	Resistor-390 ohms,insulated type, 1 watt (R9).....	S-2071	Pulley-Double drive pulley located on left hand side of dial plate.....
S-2060	Resistor-18,000 ohms,insulated type, 1 watt (R3).....	S-2070	Pulley-Main tuning drive pulley.....
S-2061	Resistor-33,000 ohms,insulated type, 1 watt (R7).....	S-2072	Pulley-Single drive pulley located on right hand side of dial plate.....
12286	Resistor-56,000 ohms,insulated type, 1/2 watt (R2).....	S-2073	Pulley-Tuning ribbon idler pulley.....
12264	Resistor-220,000 ohms,insulated type, 1/2 watt (R6).....	S-2082	Retainer-"C" washer retainers-Pkg.10.
12285	Resistor-470,000 ohms,insulated type, 1/2 watt (R8,R10).....	S-2076	Ribbon-Station indicator ribbon.....
S-2062	Resistor-1 Megohm,insulated type,1/2 watt (R5).....	S-2078	Spring-Ribbon cord drive spring-Pkg. of 5.....
S-1768	Resistor-5.6 Megohm,carbon type,1/10 watt (R4).....	S-2081	Spring-Tuning drive cord spring-Pkg. of 5.....
S-2063	Shield-First detector, 6B8G radiotron shield.....	3903	Screws-Main drive pulley set screws-Pkg.of 20.....
12008	Shield-1st I.F. transformer shield.....		
12581	Shield-Top for first I.F. transformer shield.....		
11196	Socket-8 contact radiotron socket.....		
S-2088	Switch-Power switch.....		
S-2090	Tuning condenser mounting assembly.....		